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CLAIMS:

1.   A method of generating motion blur in a graphics system, the method comprising:

-        receiving (RA; RSS; RTS) geometrical information (GI) defining a shape of a graphics primitive (SGP,TGP),

5   -   providing (DIG) displacement information (DI) determining a displacement vector (SDV;TDV) defining a direction of motion of the graphics primitive (SGP; TGP),

-        sampling (RA; RSS; RTS) the graphics primitive (SGP; TGP) in the direction indicated by the displacement vector (SDV;TDV) to obtain input samples (RPi; RIi), and

-        one dimensional spatial filtering (ODF) of the input samples (RPi; RIi) to

10   obtain temporal pre-filtering.

2.   A method as claimed in claim 1, wherein the step of providing (DIG) displacement information (DI) further defines an amount of motion of the graphics primitive (SGP; TGP), and wherein the step of one dimensional spatial filtering (ODF) is arranged to

15   obtain the temporal pre-filtering with a size of a filter footprint (FP) that depends on the magnitude of the displacement vector (SDV;TDV).

3.   A method as claimed in claim 1, wherein the displacement vector (SDV;TDV) is supplied by a 2D or a 3D application.

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4.   A method as claimed in claim 1, wherein the step of providing (DIG) displacement information (DI) receives a model-view transformation matrix from a 2D or a 3D application, said matrix defining the position and orientation of the graphics primitive (SGP; TGP) of a previous frame.

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5.   A method as claimed in claim 1, wherein the step of providing (DIG) displacement information (DI) buffers a position and an orientation of the graphics primitive (SGP; TGP) of a previous frame to calculate the displacement vector (SDV;TDV).

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6.   A method as claimed in claim 1, wherein

-       the graphics system is arranged for displaying pixels (Pi) having a pixel intensity (PIi) on a display screen (DS), the pixels (Pi) being positioned on pixel positions (x,y) in a screen space (SSP),

5   -   the step of sampling (RA; RSS; RTS) is adapted for sampling (RSS) in the screen space (SSP) in a direction of a screen displacement vector (SDV) being the displacement vector mapped to the screen space (SSP) to obtain resampled pixels (RPi),

-       the method further comprises an inverse texture mapping (ITM) receiving coordinates of the resampled pixels (RPi) to supply intensities (RIp) of the resampled pixels

10   (RPi),

-       the step of one dimensional spatial filtering (ODF) comprises averaging (AV) of the intensities (RIp) of the resampled pixels (RPi) to obtain averaged intensities (ARIp) in accordance with a weighting function (WF),

-       the method further comprises a resampling (RSA) of the averaged intensities

15   (ARIp) of the resampled pixels (RPi) to obtain the pixel intensities (PIi).

7.   Method as claimed in claim 1, wherein

-       the graphics system is arranged for displaying pixels (Pi) having a pixel intensity (PIi) on a display screen, the pixels (Pi) being positioned on pixel positions (x,y) in

20   a screen space (SSP),

-       the method further comprises providing appearance information (TA, TB) defining an appearance of the graphics primitive (SGP) in the screen space (SSP) by defining texel intensities (Ti) in a texture space (TSP),

-       the step of sampling (RA; RSS; RTS) is adapted for sampling (RTS) in the

25   texel space (TSP) in a direction of a texel displacement vector (TDV) being the displacement vector mapped to the texel space (TSP) to obtain resampled texels (RTi),

-       the method further comprising interpolating (IP) the texel intensities (Ti) to obtain intensities (RIi) of the resampled texels (RTi),

-       the step of one dimensional spatial filtering (ODF) comprises averaging (AV)

30   the intensities (RIi) of the resampled texels (RTi) in accordance with a weighting function (WF) to obtain filtered texels (FTi),

the method further comprises:

-       mapping (MSP) the filtered texels (FTi) of the graphics primitive (TGP) in the texture space (TSP) to the screen space (SSP) to obtain mapped texels (MTi),

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- determining (CAL) intensity contributions from a mapped texel (MTi) to all the pixels (Pi) of which a corresponding pre-filter footprint (PFP) of a pre-filter (PRF) covers the mapped texel (MTi), the contribution being determined by an amplitude characteristic of the pre-filter (PRF), and

5 - summing (CAL) the intensity contributions of the mapped texel (MTi) for each pixel (Pi).

8. A method as claimed in claim 6 or 7, wherein at least a direction of the displacement vector (SDV;TDV) of the graphics primitive (GP) is an average of directions of

10 displacement vectors of vertices of the graphics primitive.

9. A method as claimed in claim 6, wherein the step of one dimensional filtering (ODF) comprises:

- distributing, in the screen space (SSP), the intensities (RIp) of the resampled

15 pixels (RPi) in a direction of the displacement vector (SDV) over a distance determined by a magnitude of the displacement vector (SDV) to obtain distributed intensities (DIi), and

- averaging overlapping distributed intensities (DIi) of different pixels (Pi) to obtain a piece-wise constant signal being the averaged intensities (ARPi).

20 10. A method as claimed in claim 7, wherein the step of one dimensional filtering (ODF) comprises:

- distributing, in the texture space (TSP), the intensities (RIi) of the resampled texels (RTi) in a direction of the displacement vector (TDV) over a distance determined by a magnitude of the displacement vector (TDV) to obtain distributed intensities (TDIi), and

25 - averaging overlapping distributed intensities (TDIi) of different resampled texels (RTi) to obtain a piece-wise constant signal being the filtered texels (FTi).

11. A method as claimed in claim 7, wherein the step of one dimensional spatial filtering (ODF) is arranged for applying a weighted averaging function (WF) during at least

30 one frame-to-frame interval.

12. A method as claimed in claim 9 or 10, wherein the distance is rounded to a multiple of the distance (DIS) between resampled texels (RTi).

13.   A graphics computer system comprising:

-          means for receiving (RA; RSS; RTS) geometrical information (GI) defining a shape of a graphics primitive (SGP,TGP),

-          means for providing (DIG) displacement information (DI) determining a displacement vector (SDV;TDV) defining a direction of motion of the graphics primitive (SGP; TGP),

-          means for sampling (RA; RSS; RTS) the graphics primitive (SGP; TGP) in the direction indicated by the displacement vector (SDV;TDV) to obtain input samples (RPi; RIi), and

-          means for one dimensional spatial filtering (ODF) of the input samples (RPi; RIi) to obtain temporal pre-filtering.